

IN THE CLAIMS:

- Sub A1
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1. A computer-implemented framework for associating data with a command object, the command object being arranged to operate on the data, wherein the data is associated with an application, the computer-implemented framework comprising:
- 5 a data handler mechanism arranged to interface with the application;
- a data retriever mechanism in communication with the data handler mechanism, the data retriever mechanism being arranged to obtain the data and to pass the data to the data handler mechanism; and
- 10 a mapping mechanism in communication with the data handler mechanism, the mapping mechanism being arranged to obtain the command object.
- See G-7
- 15 2. A computer-implemented framework according to claim 1 wherein the data is a stream of bytes, and the data handler mechanism is further arranged to bind the stream of bytes to the command object.
3. A computer-implemented framework according to claim 1 wherein the data retriever mechanism includes a data content handler mechanism in communication with the data handler mechanism, the data content handler mechanism being arranged to
- 20 convert the data into a data object, wherein the data handler mechanism is further arranged to bind the data object to the command object.
4. A computer-implemented framework as recited in claim 3 wherein the data object is created using the Java™ programming language, and the command object is a
- 25 Java™ command object.
5. A computer-implemented framework as recited in claim 1 wherein the data is one of text data and image data.

6. A computer-implemented framework as recited in claim 1 wherein the data handler is further arranged to receive a request from the application, to bind the data to the command object, and to return the command object to the application.

5 7. A computer-implemented framework as recited in claim 1 wherein the data retriever includes a data source mechanism arranged to obtain a stream of bytes and a data content handler mechanism arranged to convert the stream of bytes into a data object, the data source mechanism being in communication with the data content handler mechanism, wherein the data handler mechanism is further arranged to bind the data object to the command object.

8. A computer-implemented framework as recited in claim 1 wherein the mapping mechanism includes a look-up table arranged to associate the command object with the data.

15 9. A computer-implemented method for associating data with a command object in response to a request from an application, the method comprising:

accessing the data through an interface in response to the request from the application, wherein the request from the application is processed by the interface;

20 accessing a mapping mechanism which is in communication with the interface, the mapping mechanism being arranged to locate a command object that is appropriate for the data, wherein the mapping mechanism is accessed by the interface;

obtaining the command object that is appropriate for the data, wherein the mapping mechanism obtains the command object and passes the obtained command object to the interface;

25 binding the command object to the data, wherein the interface binds the command object to the data; and

returning the command object to the application, wherein the interface returns the command object to the application.

10. A computer-implemented method as recited in claim 9 wherein accessing the data through an interface includes:

5 passing a stream of bytes to a data content handler mechanism arranged to create a data object from the stream of bytes; and  
passing the data object to the interface, wherein the data is the data object.

11. A computer-implemented method as recited in claim 10 wherein the data object is created using the Java™ programming language, and the command object is a Java™  
10 command object.

12. A computer-implemented method as recited in claim 9 wherein accessing the data through the interface includes accessing a data retriever which is arranged to obtain the data, wherein the data is a stream of bytes.  
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13. A computer-implemented method as recited in claim 9 further including operating on the data using the command object.

14. A computer-implemented method as recited in claim 9 wherein the command  
20 object that is appropriate for the data is selected from a set of command objects associated with a command list, the command list being associated with the data, the method further including accessing the command list, wherein the command list is accessed by the interface.

25 15. A computer-implemented method as recited in claim 14 wherein accessing the command list includes receiving a request for a command list from the application, the request for the command list being received by the interface, wherein the interface performs the steps of:

obtaining a type associated with the data;

obtaining the command list through the mapping; and  
returning the command list to the application.

Sub A 3  
5 16. A computer-readable medium containing computer-readable program code devices for associating data with a command object in response to a request from an application, the computer-readable medium comprising computer program code devices configured to cause a computer to execute the steps of:

accessing the data through an interface in response to the request from the application, wherein the request from the application is processed by the interface;

10 accessing a mapping mechanism which is in communication with the interface, the mapping mechanism being arranged to locate a command object that is appropriate for the data, wherein the mapping mechanism is accessed by the interface;

obtaining the command object that is appropriate for the data, wherein the mapping mechanism obtains the command object and passes the obtained command  
15 object to the interface;

binding the command object to the data, wherein the interface binds the command object to the data; and

returning the command object to the application, wherein the interface returns the command object to the application.

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17. A computer-readable medium as recited in claim 16 wherein the computer program code devices configured to cause the computer to access the data through an interface include computer program code devices configured to cause a computer to execute the steps of:

25 passing a stream of bytes to a data content handler mechanism arranged to create a data object from the stream of bytes; and

passing the data object to the interface, wherein the data is the data object.

18. A computer-readable medium as recited in claim 17 wherein the data object is created using the Java™ programming language, and the command object is a Java™ command object.

5 19. A computer-readable medium as recited in claim 16 further including computer program code devices configured to cause the computer to operate on the data using the command object.

10 20. A computer-readable medium as recited in claim 16 wherein the command object that is appropriate for the data is selected from a set of command objects associated with a command list, the command list being associated with the data, the computer-readable medium further including computer code devices configured to cause the computer to access the command list through the interface.

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